DETAILED ACTION

(Reissue Applications)

1. Claims 1-20, 22-23, 26-31, 34-35, 52, 54 and 76 are pending in this application. Claims 1, 5, 13, 20, 34-35, 52 and 76 are independent claims, claims 20, 22, 23, 26, 28, 34, 35 and 52 were amended, and claims 40, 41, 47, 49, 55-61, 63, 64, 66, 67, 69-75 and 77-80 were canceled. This action is non-final.

2. This application is a reissue application of Application No. 09/412,745 filed 10/5/1999, which is now Patent No. 6,346,972, which has Foreign Priority dated 5/26/1999.

3. The present title of the invention is "Video display apparatus with on-screen display pivoting function" as filed originally.

Objection

4. Amended claims are objected to because of the following informalities: The amended claims do not follow the requirement of 37 CFR 1.173(b). Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 20, 22-23 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto et al. (5,134,390) in view of Wanatabe et al. (US 6,268,887).

As per Claim **20**, Kishimoto discloses a method of displaying an on-screen display (0SD) in a video display apparatus having a screen and a rotatable screen body supporting the screen, the method comprising:

generating a pivot control signal to be supplied to a pivot circuit so as to display the OSD image suitable to a rotated state of the rotatable screen body (Figure 1, item 9; "The end position detection circuit 903 supplies display rotary position information 903 to the main control unit … in accordance with the position detection signals 117a and 118a supplied from the rotary position detection switches 117 and 118", column 5, line 21-27; and FIG. 1, where item 2 can manipulate display mode; "an operator can make the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4, where the key is the controller generates a pivot control signal); and

displaying a picture of the converted color component video signals on the screen body and displaying the OSD image on the displayed picture in accordance with the pivot control signal and the key manipulation (Figure 1, item 4 shows where the converted signal and Figure 6 shows rotated position; "guidance information 62, e.g., for function keys, is displayed on the display screen 63 as the guidance information 66 and on the display screen 67 as the guidance information 69", column 5, line 66- column 6, line 1, where the guidance information is considered the OSD; "an operator can make

the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4, where the key is the controller generates a pivot control signal).

Kishimoto discloses a method of displaying an image. It is noted that Kishimoto does not explicitly disclose the image signal could be from external and "converting scales of the input video signals to have a certain frequency ration in correspondence with display characteristics of the screen". However, this is known in the art as taught by Wanatabe. Wanatabe discloses video signals could be generated from external (Figure 1, item 1) and a method of displaying image signals having differing frequency corresponding to differing display scanning frequency of a display apparatus (col. 14, line 64- col. 15, line 2, where displaying scanning frequency is considered a display characteristic and the ratio of the two frequencies constitute a frequency ratio).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Wanatabe into Kishimoto because Kishimoto discloses a method of displaying an image and Wanatabe discloses different frequency could be applied to in accordance to different display characteristics for the purpose of properly display an image.

7. As per Claim **22**, Kishimoto and Wanatabe demonstrated all the elements as disclosed in the rejected claim 20, and Kishimoto further discloses wherein the user input is made by a direct key selection ("an operator can make the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4).

8. As per Claim **23**, Kishimoto and Wanatabe demonstrated all the elements as disclosed in the rejected claim 20, and Kishimoto further discloses generating a mode signal indicating a rotated state of the screen body according to the key manipulation by the user (FIG. 1, where item 2 manipulates display mode; "an operator can make the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4);

Wherein the pivot control signal is generated to control the pivot circuit to generate a pivoted OSD image signal in response to the mode control signal generated by the user (Figure 1, item 9; "The end position detection circuit 903 supplies display rotary position information 903 to the main control unit ... in accordance with the position detection signals 117a and 118a supplied from the rotary position detection switches 117 and 118", column 5, line 21-27).

9. As per Claim **34**, Kishimoto discloses a method of displaying a first image including an on-screen display (OSD) in a video display apparatus having a screen and a rotatable screen body, the method comprising:

receiving externally input video signals having a picture (“An image input unit 4, e.g., an image scanner, reads image information on a medium in the form of binary signals”, column 3, line 30-32, where the image scanner receives picture from external; video signal is sent to the display);

generating a pivot control signal to display the OSD image suitable to a rotated state of the rotatable screen body (“an operator can make the display 11 to rotate upon

manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4, where the key input generates a pivot control signal);

displaying the converted picture (Figure 1, item 11);

modifying OSD data corresponding to the OSD image including the OSD with respect to the pivot control signal (FIG. 1, where item 2 can manipulate pivot control signal; "an operator can make the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4); and

displaying the OSD image that corresponds to the modified OSD data on the converted picture displayed on rotatable screen (Figure 1, item 11 and Figure 6 is a modified OSD image).

Kishimoto discloses a method of displaying a picture. It is noted that Kishimoto does not explicitly disclose the video signal is from external and "converting scales of the input video signals to have a certain frequency ration in correspondence with display characteristics of the screen". However, this is known in the art as taught by Watanabe. Wanatabe discloses video signals could be generated from external (Figure 1, item 1) and a method of displaying image signals having differing frequency corresponding to differing display scanning frequency of a display apparatus (col. 14, line 64- col. 15, line 2, where displaying scanning frequency is considered a display characteristic and the ratio of the two frequencies constitute a frequency ratio).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Wanatabe into Kishimoto because Kishimoto discloses a method of displaying an image and Wanatabe discloses different frequency could be applied to in

accordance to different display characteristics for the purpose of properly display an image.

10. As per Claim **35**, Kishimoto discloses a video display apparatus having a screen body to display an on-screen display (OSD) image, the video display apparatus comprising:

a converter to receive externally input video signals having a picture ("An image display control unit 8 controls the display of image data on a display 11, e.g., to determine the display position, magnification and display format of image data", column 3, line 42-45);

a controller to generate a pivot control signal to display the OSD image suitable to a rotated state of the rotatable body ("an operator can make the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4, where the key is the controller generates a pivot control signal); and

a circuit unit to display the picture of the externally inputted video signals on the screen body and to display the OSD image containing information about operation of the screen body at a rotated position in accordance with the pivot control signal on the displayed picture (Figure 1, item 4 is the external inputted signal; Figure 7 is a circuit unit; Figure 6 shows rotated states; "guidance information 62, e.g., for function keys, is displayed on the display screen 63 as the guidance information 66 and on the display screen 67 as the guidance information 69", column 5, line 66- column 6, line 1, where the guidance information is considered the OSD).

Kishimoto discloses a method of displaying a picture. It is noted that Kishimoto does not explicitly disclose the video signal is from external and "convert scales of the input video signals to have a certain frequency ration in correspondence with display characteristics of the screen body". However, this is known in the art as taught by Watanabe. Wanatabe discloses video signals could be generated from external (Figure 1, item 1) and a method of displaying image signals having differing frequency corresponding to differing display scanning frequency of a display apparatus (col. 14, line 64- col. 15, line 2, where displaying scanning frequency is considered a display characteristic and the ratio of the two frequencies constitute a frequency ratio).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Wanatabe into Kishimoto because Kishimoto discloses a method of displaying an image and Wanatabe discloses different frequency could be applied to in accordance to different display characteristics for the purpose of properly display an image.

11. Claims 52 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto et al. and further in view of Register (US 5,134,390).

As per claim **52**, Kishimoto discloses a video display apparatus having a rotatable display unit, the video display apparatus comprising:

an external signal unit to receive an external image signal ("An image input unit 4, e.g., an image scanner, reads image information on a medium in the form of binary signals", column 3, line 30-32, where the image scanner receives image from external; video signal is sent to the display);

an OSD generator to generate an internal OSD image signal in response to an OSD driving signal (Figure 7, "The image display control unit 8 includes a character bit map memory (BMM) 77 for storing character codes such as the guidance information 62 sent via the character code bus 800, and an image bit map memory (BMM) 81 for storing image data sent via the system bus 3 … The buffer control unit 74 controls the data input/output of a rotation buffer … A rotation control unit 76 outputs the data stored in the rotation buffer 75 through conversion of the memory of the memory storage address", column 6, line 10-27);

a control unit to generate a pivot control signal to display the OSD image suitable to a rotated state of the ratable display unit and a OSD driving signal according to a key manipulation by a user to indicate the rotated sate of the display unit and request and OSD, respectively (Figure 1, item 9; "The end position detection circuit 903 supplies display rotary position information 903 to the main control unit … in accordance with the position detection signals 117a and 118a supplied from the rotary position detection switches 117 and 118", column 5, line 21-27; "an operator can make the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4, where the key is the controller generates a pivot control signal); and

a circuit unit to drive the display unit to display the external image signal and to drive the display unit to display the internal OSD image signal at a rotated position in accordance with the pivot control signal generated by the control unit (Figure 1, item 4 is the external inputted signal; Figure 7 is a circuit unit; Figure 6 shows rotated states;

“guidance information 62, e.g., for function keys, is displayed on the display screen 63 as the guidance information 66 and on the display screen 67 as the guidance information 69”, column 5, line 66- column 6, line 1, where the guidance information is considered the OSD).

Kishimoto discloses a method of displaying rotated image. It is noted that Kishomoto does not explicitly disclose the image signal could be from external and “wherein the display unit comprises one or more function keys to change the operation settings thereof by indicating the rotated state of the display unit such that the circuit unit drives the display unit to display the internal OSD image signal in response to a selection of the one or more function keys". However, this is known in the art as taught by Register. Register discloses a method of rotating an OSD in which the image signal could be from external (Figure 6, items 110, 112, 114 and 116) and the OSD is rotated by a key located on the screen body (“to accommodate this reorientation of its display screen image 52, as well as the command test and/or graphics C within the command icons 54a, 54b may be similarly rotated ninety degrees in a clockwise orientation using one of the toggle buttons 28, 30, 32 and 34 (representatively the toggle button 34)”, column 3, line 65- column 4, line 4, where 54a and 54b are considered OSD).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Register into Kishimoto because Kishimoto discloses a method of displaying an image and Register discloses manipulation of the OSD can be done by a key located on a displaying for the purpose of making a device more compact.

12. As per claim 54, Kishimoto and Register demonstrated all the elements as disclosed in claim 52, and Register further discloses “a screen and a rotatable screen body surrounding the screen having the one or more function keys installed thereon”, (Figure 1, item 26 and items 34a and 34b).

13. Claims 26, 27, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto et al. and Wanatabe et al., and further in view of Register. As per Claim **26**, Kishimoto and Wanatabe demonstrated all the elements as disclosed in the rejected claim 23, and Kishimoto further discloses rotating the OSD image in accordance with the mode control signal (FIG. 1, where item 2 manipulates display mode; "an operator can make the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4).

Kishimoto and Wanatabe disclose a method of displaying image. It is noted that Kishimoto and Wanatabe do not explicitly disclose wherein the OSD image rotating operation comprises reordering read sequence of the OSD data which is stored in a data memory. However, this is known in the art as taught by Register. Register discloses a method of displaying image such that “The subroutine then arranges the data patterns within the memory 104 such that the video controller 106 displays the data on the display screen 108 in an orientation that is rotated ninety degrees”, column 5, line 13-16.

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Register into Kishimoto and Wanatabe because Kishimoto and

Wanatabe disclose a method of displaying image and Register discloses the stored data image could be reordered for the purpose of correctly displaying the image.

14. As per Claim **27**, Kishimoto, Wanatabe and Register demonstrated all the elements as disclosed in the rejected claim 26, and Register further discloses the reordering operation is made to form characters and/or symbols represented by the OSD data in a perpendicularly rotated manner (texts or symbols that are perpendicularly rotated in Figure 4 and Figure 5, items 54a and 54b).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Register into Kishimoto and Wanatabe because Kishimoto and Wanatabe disclose a method of displaying image and Register discloses the stored data image could be reordered for the purpose of correctly displaying the image.

15. As per Claim **28**, Kishimoto and Wanatabe demonstrated all the elements as disclosed in the rejected claim 23, and Kishimoto further discloses rotating the OSD image in accordance with the mode control signal (FIG. 1, where item 2 manipulates display mode; "an operator can make the display 11 to rotate upon manipulation of the keyboard 2 at any time the operator desire", column 4, line 64- column 5, line 4).

Kishimoto and Wanatabe disclose a method of displaying image. It is noted that Kishimoto and Wanatabe does not explicitly disclose reordering read addresses of the OSD data which is stored in a data memory. However, this is known in the art as taught by Register. Register discloses “The subroutine then arranges the data patterns within the memory 104 such that the video controller 106 displays the data on the display screen 108 in an orientation that is rotated ninety degrees”, column 5, line 13-16.

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Register into Kishimoto and Wanatabe because Kishimoto and Wanatabe disclose a method of displaying image and Register discloses the stored data image could be reordered for the purpose of correctly displaying the image.

16. As per Claim **29**, Kishimoto, Wanatabe and Register demonstrated all the elements as disclosed in the rejected claim 28, and since the claim limitation is similar to claim 27, it is similarly rejected as claim 27.

17. Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto et al. (5,134,390) and Wanatabe et al. and further in view of Sakamoto et al. (5,329,289).

18. As per Claim **30**, Kishimoto and Wanatabe demonstrated all the elements as disclosed in the rejected claim 20.

Kishimoto and Wanatabe disclose an OSD display screen. It is noted that Kishimoto and Wanatabe do not explicitly disclose reading OSD data contained in the OSD image as first OSD data and modifying the first OSD data as second OSD data according to the generated mode signal, however, this is known in the art as taught by Sakamoto et al., hereinafter Sakamoto. Sakamoto discloses

reading OSD data contained in the OSD image as first OSD data ("data on an onscreen display stored in the display status storing region in the RAM 11b is read through the CPU 10 in the initialization routine stored in the ROM 11a (S2)", column 4, line 52-55); and

modifying the first OSD data as second OSD data according to the generated mode signal ("If it is recognized as the vertically elongated screen, a command is accordingly sent through the CPU 10 to the display controller 16 to set a vertically elongated on-screen format to the display unit 3 (S4)", column 4, line 58-62).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teach of Sakamoto into Kishimoto and Wanatabe because Kishimoto and Wanatabe disclose a method of display dual mode image and Sakamoto discloses the generated image could be modified in order for it to be suitably displayed in different modes.

19. As per Claim **31**, Kishimoto, Wanatabe and Sakamoto demonstrated all the elements as disclosed in the rejected claim 30, and Sakamoto further discloses the modifying operation comprises:

storing a write address of the first OSD data in a predetermined format that corresponds to the rotated position of the screen body ("the RAM 38 is a memory which can write/read upon occasion and which has a function to temporarily store input data ", column 8, line 40-42).

Thus, it would have been obvious to one of ordinary skill in the art to incorporate the teach of Sakamoto into Kishimoto and Wanatabe because Kishimoto and Wanatabe disclose a method of displaying an OSD image and Sakamoto discloses the generated image could be modified in order for it to be suitably displayed in different mode.

Allowable Subject Matter

20. Claims 1-19 and 76 are allowed.

Response to Arguments

21. Applicant's arguments with respect to claims 20, 22, 23, 26-31, 34, 35, 52 and 54 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan R. Yang whose telephone number is (571) 272-7666. The examiner can normally be reached on M-F 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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May 8, 2009